

## ABSTRACT

An optical scanning system under specialized feedback control is disclosed. The scanner is adapted for microarray scanning. The control algorithm accounts for tilt in successive scans in opposite directions across a microarray slide or substrate. The feedback approach may involve PI or a PID terms. In either type of control approach, the integral term controlling focusing is artificially set to the negative of its value at the end of a preceding line scan at the start of the next line scan. Depending on the physical configuration of the system, it may be feasible to simply take the negative of the integral term measured by the system. In variations of the invention, integral terms accounting for other focus system variables are taken into account. In practice, marked improvement in scanner focus has been observed by the subject system and included methodology.